
Pixel Mechanics - Schedule

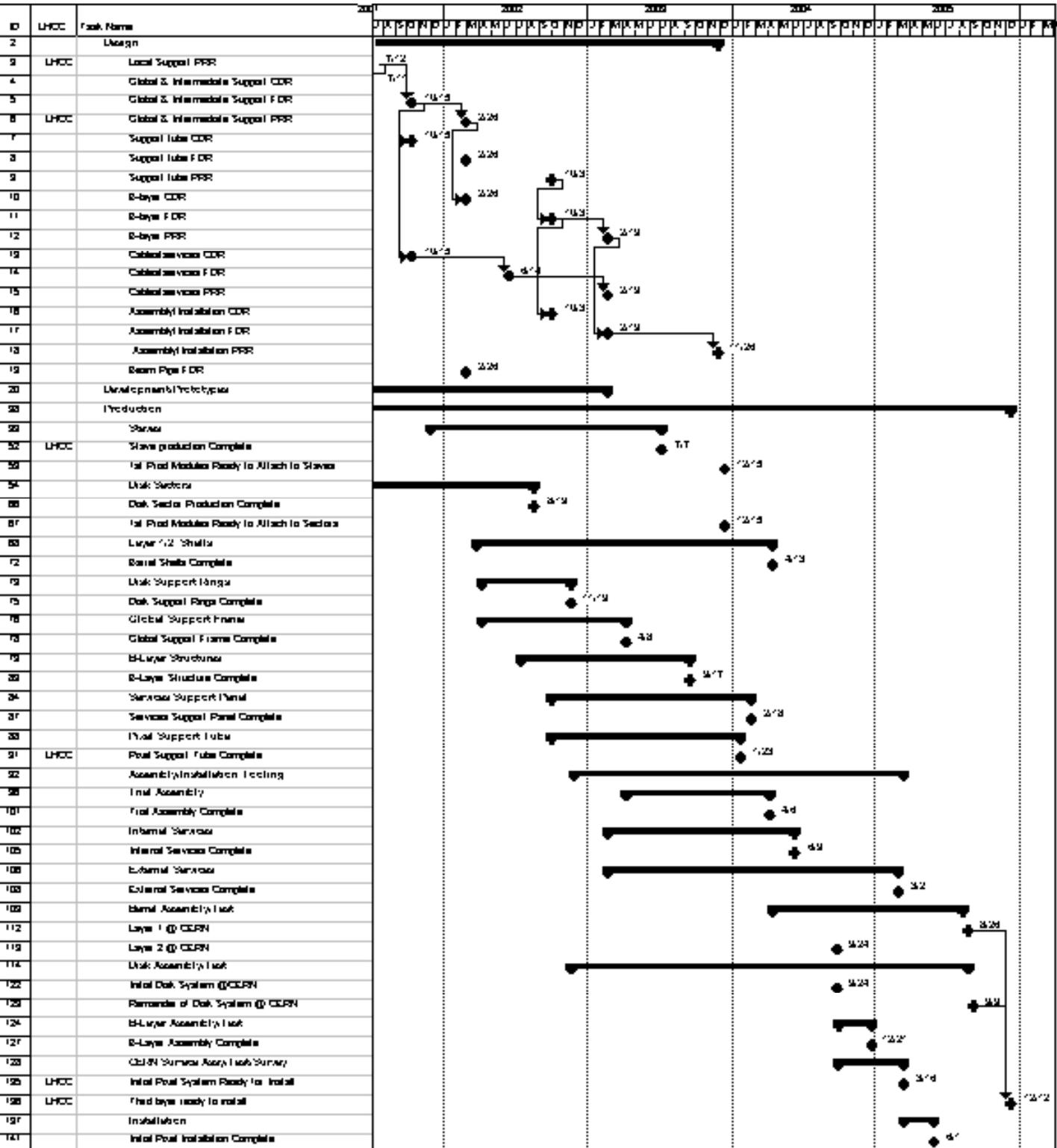
Conceptual Design Review

July 11, 2001

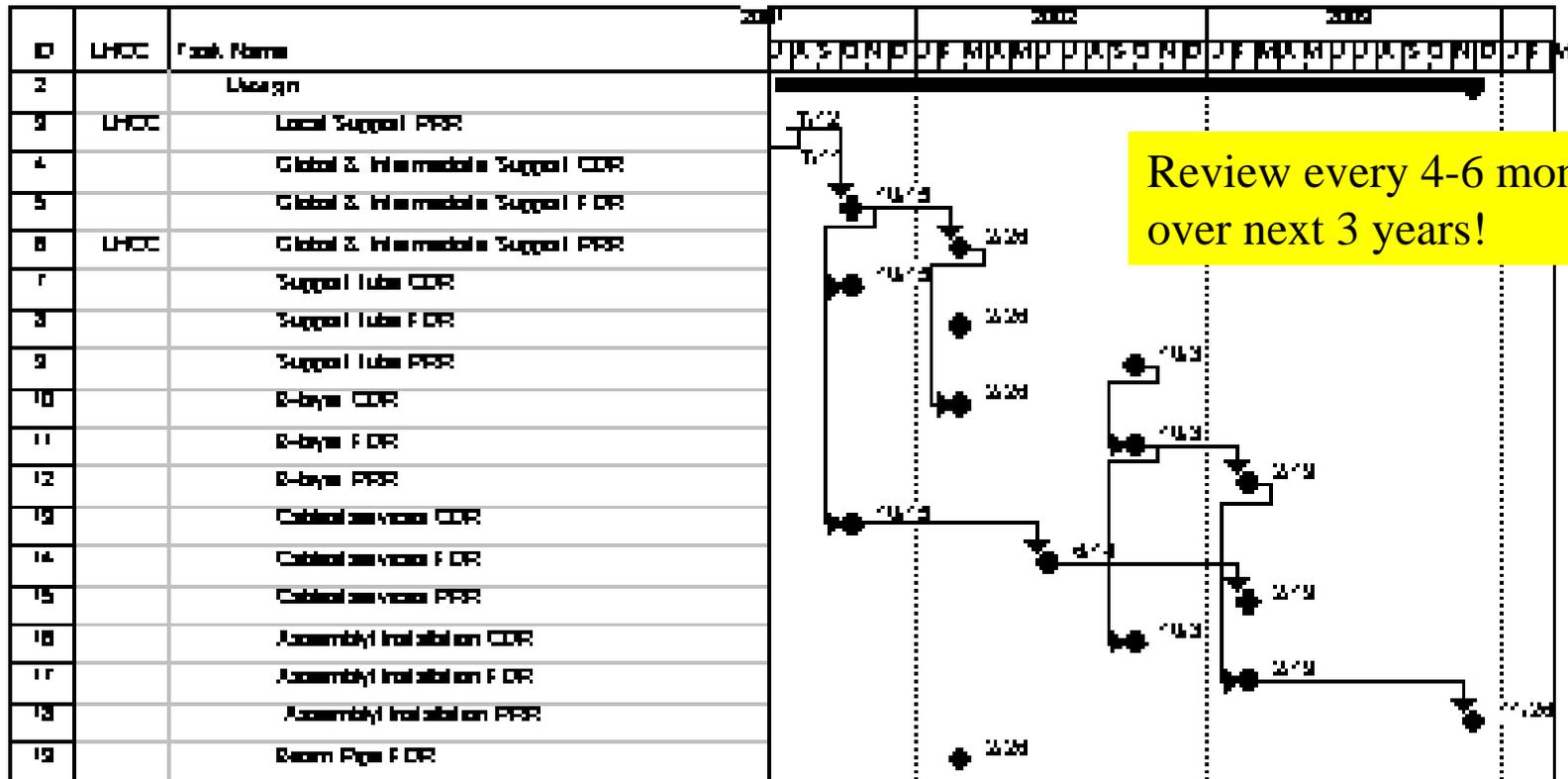
Introduction

- Will present mechanics schedule and important connections to other activities(pixel modules, SCT installation, final installation). More detailed scheduled included at end of presentation for reference.
- The mechanics schedule to be shown is constructed from sub-schedules that currently have three levels of detail:
 - production-ready(local supports)
 - near production(intermediate supports, global support)
 - conceptual(everything else)
- We understand that production-ready schedules are needed for all sub-tasks and that these will be produced as necessary to meet review and global schedules.
- We have attempted to group design(including PRR) reviews, but nevertheless there is a heavy schedule of reviews in the next two years.
- Even so Production Advancement Reviews(PAR) are not yet included but would most naturally be aligned in time with other reviews over the next two years.

Schedule Summary



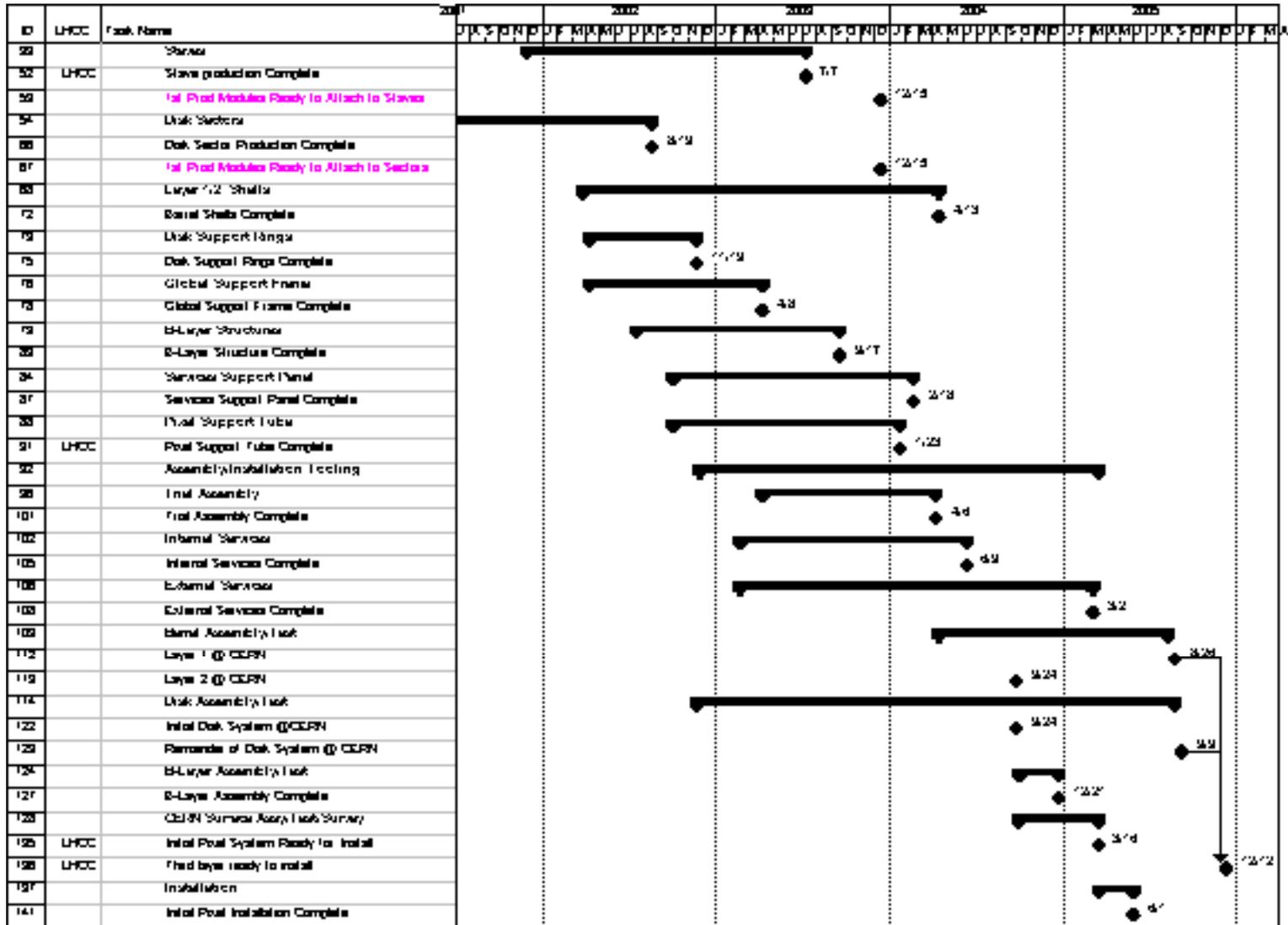
Design and Reviews



Review every 4-6 months over next 3 years!

Sectors	2/26/02	B-layer shell	6/1/03
Staves	6/14/02	Services	11/26/03
Inter. Supports	6/14/02	Assy/Inst. Tools	6/1/04
Global support	10/3/02	PARs	

Production



Remarks on Production

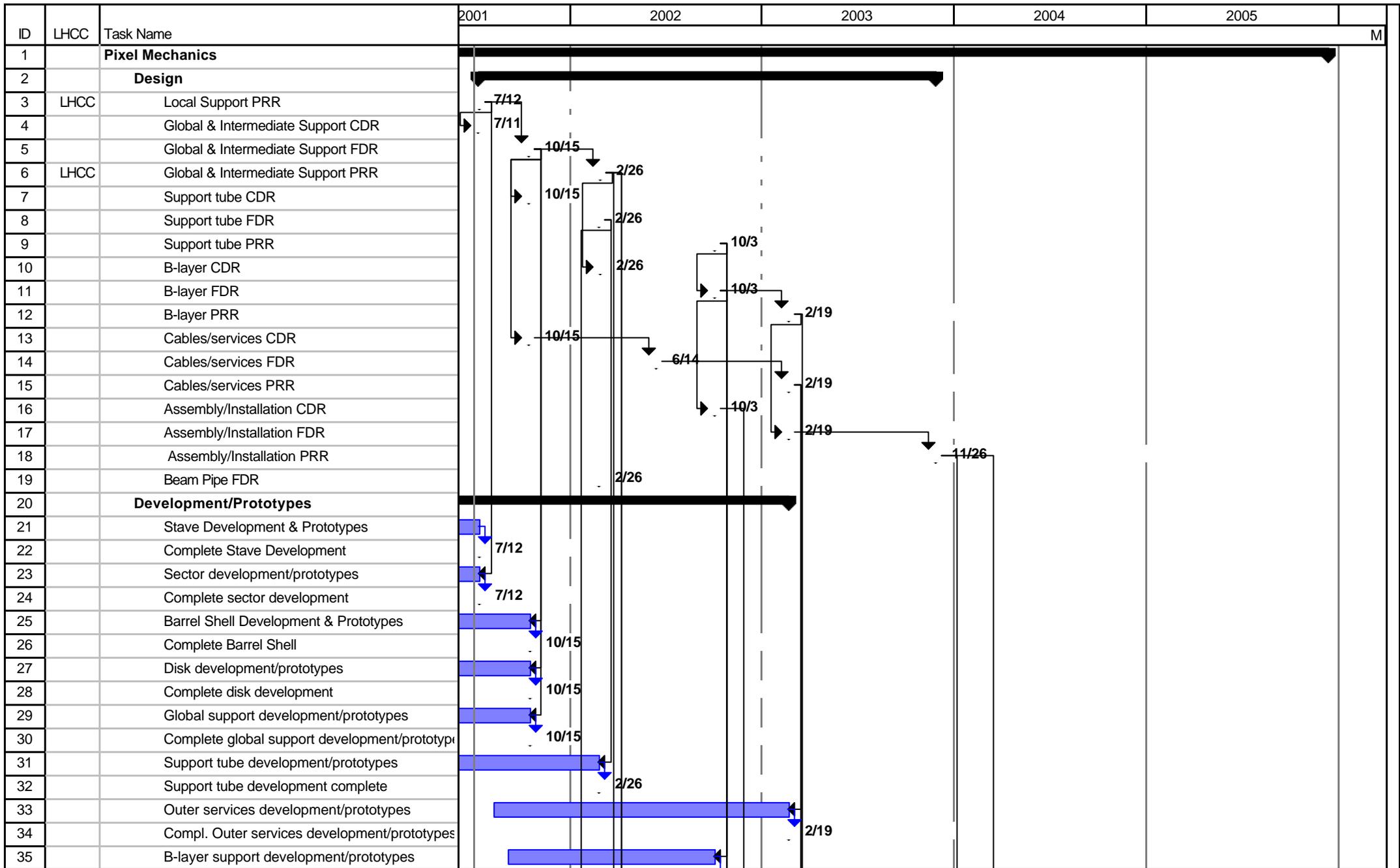
- Disk support rings likely to be ready for production earlier than shown. If so, will desire to begin full production by end this year, after FDR in October 2001.
- Barrel shell production order is currently Layer 1, B-layer, Layer-2.
- Internal services are those services inside the pixel support tube/endplugs.
- External services are outside support tube/endplugs.
- Services schedule in part driven by prototype tests of full electronics chain from modules to power supplies that will occur over next year. Driven by electronics availability.
- Substantial trial assembly of structures in schedule to verify design and understand some of assembly/installation steps.

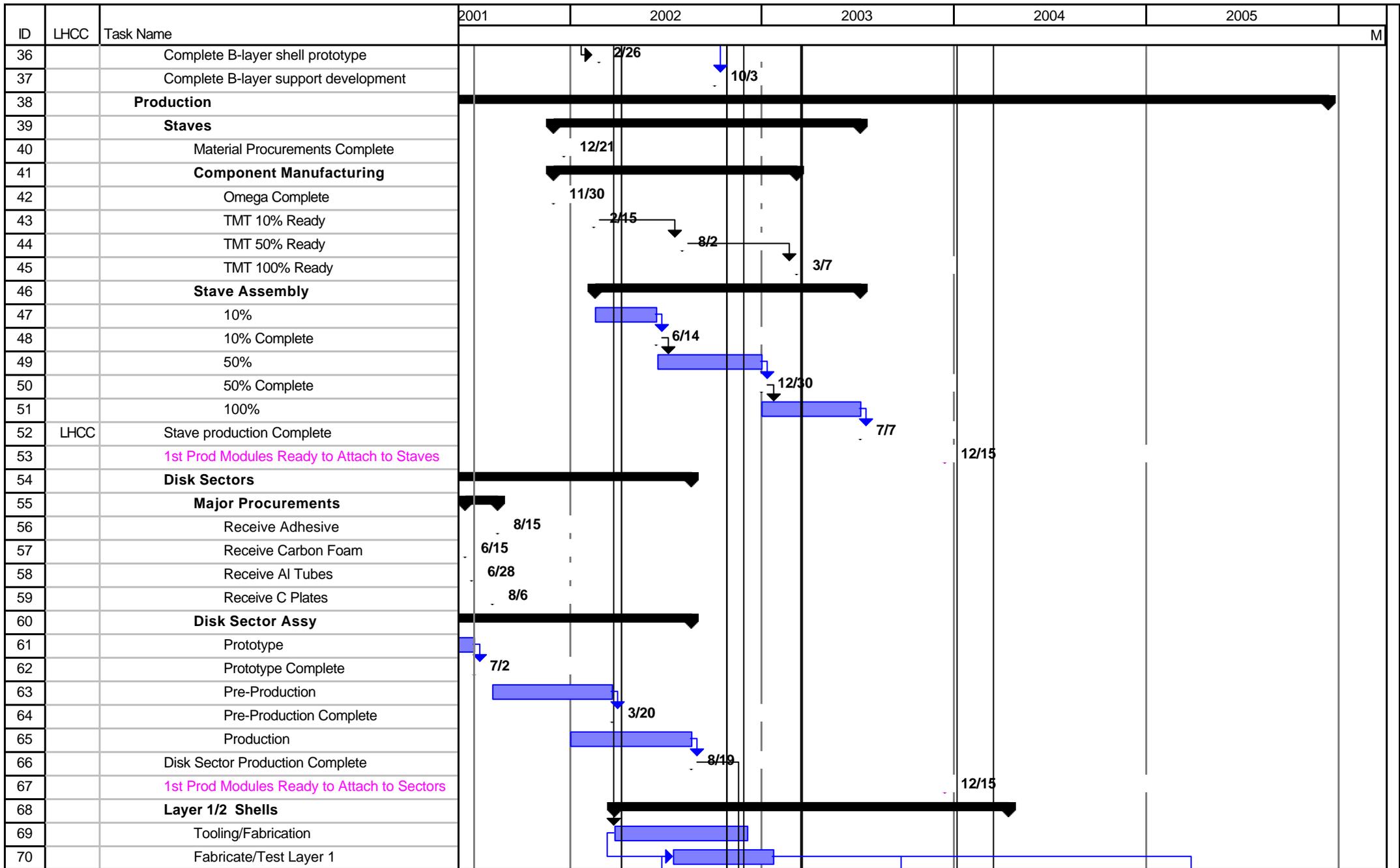
Important Connections

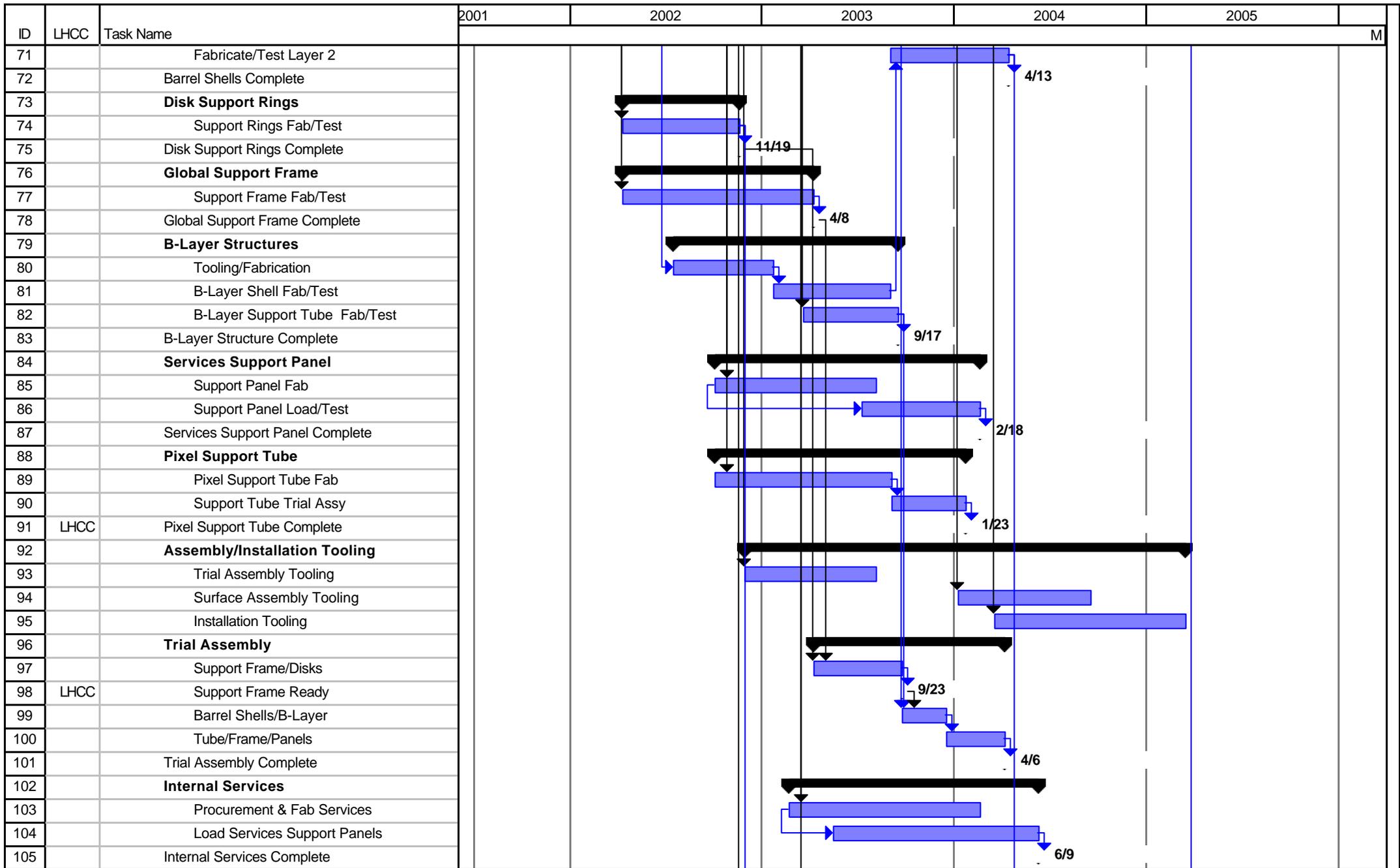
- Internal to pixel system
 - First production modules ready for attachment to local supports December 2003. Slack: 5 months for staves, 16 months for sectors
- External to pixel system
 - Beam pipe review in February 2002 to confirm double wall design, bake-out of beam pipe with B-layer in place. We are proceeding at full speed assuming this WILL BE confirmed.
 - B-layer in-pit installation or only on surface. Decision no later than February 2002.
 - Barrel part of support tube needed for installation into SCT/TRT July 2004. Slack: 6 months
- ATLAS Installation
 - Required for commissioning run(2006) is June 2005. Slack: 3 months, but tight
 - Required for physics run(installation in 2006) is April 2006. Slack: 4 months.

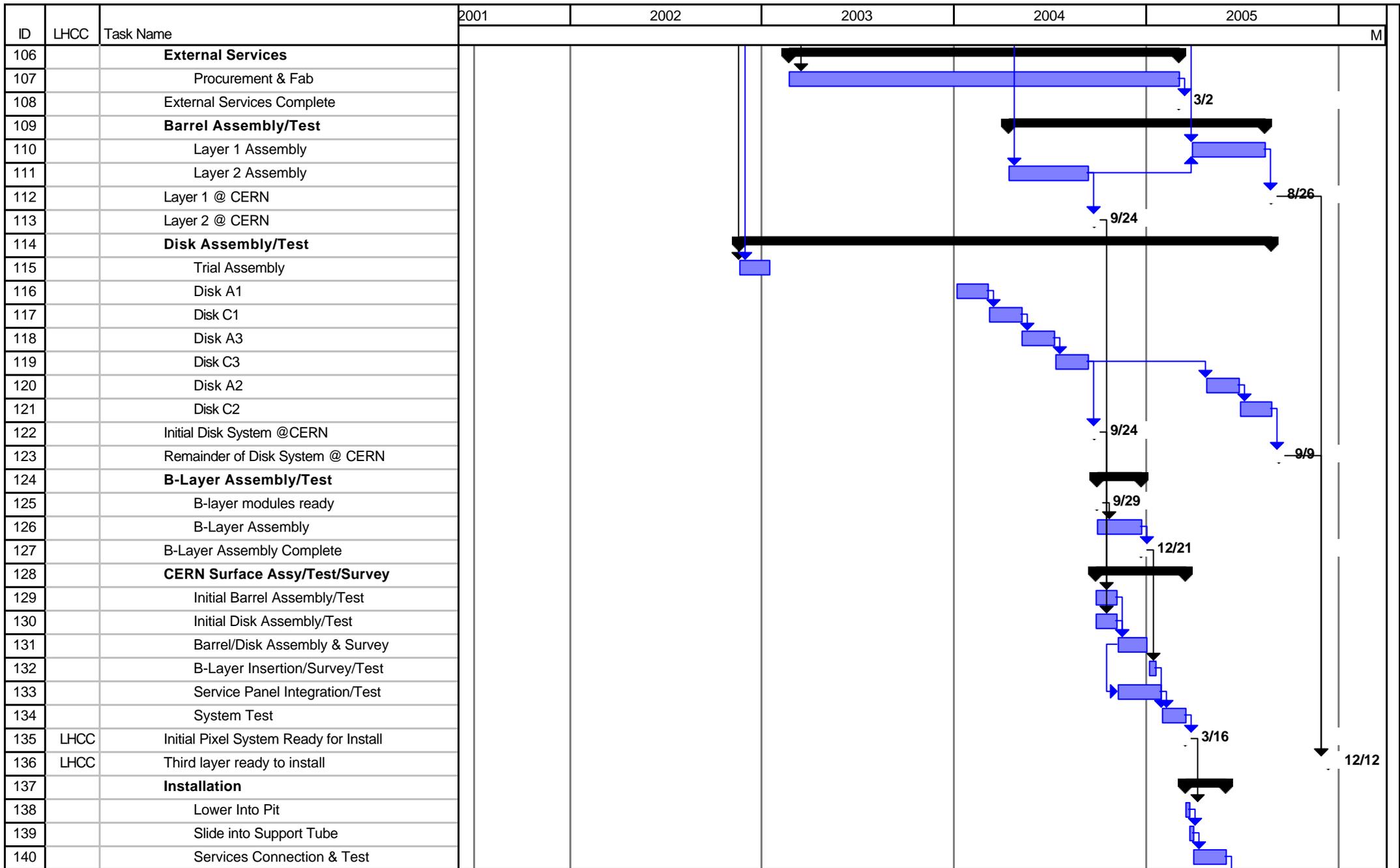
Comments

- The design review load is considerable but hard to see how to compress. Needs close coordination with TC to be most efficient.
- Decisions on B-layer bake-out and installation no later than early 2002 are critical.
- The mechanics is not on the pixel critical path until mid-2004, until attachment of modules is in full production and final assembly/installation. We have taken advantage of this by scheduling as much trial assembly and advanced preparation as possible.
- We recognize schedule for final assembly/testing at CERN + installation is tight. Will require careful planning, multiple shift operation, careful design of tooling and test equipment,...









ID	LHCC	Task Name	2001	2002	2003	2004	2005	M
			141		Initial Pixel Installation Complete			